Networking Gap Analysis

Briefer:

C2 DOTMLPF Working Group

MONDAY 26	TUESDAY 27	WEDNESDAY 28	THURSDAY 29	FRIDAY 30
0800 Opening 0830 DWG Procedural Brief 0930 DO Brief 1030 DWG Plan of Attack	Networking cont'd	Positive ID of Friendly Forces Gaps 5,10,13,21,24	0800 Synchronize Execution Gaps 3,6,19,20	0800 Review DOTLPF impacts across gaps Review SPD alignment 1200 Adjourn
1300 Networking Gaps 2, 4, 8, 16, 17, 23, 26 Collaboration Gaps 9,12, 14, 22, 29 Positive ID gaps 1, 31	Networking cont'd	Conduct IA Gaps 7, 11, 18	Plan Collaboratively Gaps 15, 25, 27, 28, 30	1300 SPD Core Development Team

Networking

- **Gap 2: Gap in the ability to operate voice and data C2 systems to the squad level (G)**
- **Gap 4: Ability to operate C4I systems OTM/OTH (G)**
- **Gap 8: Ability to monitor, maintain and mange the network (G)**
- **Gap 16: Networking in a static environment (S/F)**
- **Gap 17: Network interoperability with other services (S/F)**
- **Gap 23: Shortfall in personnel trained and experienced to plan, manage, and maintain the network (S/F)**
- **Gap 26: Lacks robust transport layer to support DO (G)**

(G) = Gap (S/F)= shortfall

Collaboration Gaps

- **Gap 9: Insufficient transport layer to support collaborative applications (G)**
- **Gap 12: MEU shortfall in communications path (S/F)**
- **Gap 14: MEU shortfall in operational/tactical bandwidth (S/F)**
- **Gap 22: MEF shortfall in operational/tactical bandwidth (S/F)**
- **Gap 29: MEB shortfall in operational/tactical bandwidth (S/F)**

(G) = Gap (S/F)= shortfall

Positive ID for Friendly Forces

- **Gap 1: Tech solution needed to build hybrid terrestrial/celestial networks (MEB) (S/F)**
- **Gap 31: Tech solution needed to build hybrid terrestrial/celestial networks (MEF) (S/F)**

(G) = Gap (S/F)= shortfall

Provide Positive ID of Friendly Forces in the AO
Priority #1

JCA: 5.3.0.0 Develop and Maintain Shared Situational Awareness and Understanding

MCT: 5.1 Acquire, Process, Communicate information and maintain status
MCT: 5.1.3.2 Provide Positive ID of Friendly Forces in the AO

Deficiencies in Conditions: Unable to provide accurate, timely and secure position location information and blue force situational awareness to the lowest reporting unit

Inputs utilized for analysis:

GCE Capabilities Assessment dtd 1 June 06
ACE – AC2 Functional Concept dtd 22 Nov 05
FORCEnet Concept Annex: Capability decomposition (FN 2)
C2 CBA (JC2 FCB)
DO Concept
MAGTF C2 CONOPS
MAGTF C2 Vision Statement

Gap, Excess, or Shortfall

Mission Area	FP, PO, FE, CIT, DO
Forces Affected	MEF and Below
Capability Statement	Shortfall: Technological solution needed to build hybrid terrestrial/celestial networks which combine the low data latency aspects of terrestrial networks with the BLoS capability of celestial networks.
DOTMLPF	D,O,T,M

Current PORS:

C2PC

CAC2S

MAGTF C2 S&A

MCTIS/BYTIDS

DACT/BFSA

Networking
Priority #2

JCA: Provide Robust, reliable communications to all nodes, based on the varying requirements of those nodes (FORCEnet Capability #1)

MCT: 5.1.1 Provide and Maintain Communications

Deficiencies in Conditions: Unable to communicate all Command and control data (voice/data/video) across a common IP backbone

Deficiencies in Standards: "Capable" defined as ability to use DSN and switched voice, utilize 1-10Mbps of data and participate in point to point video teleconferencing

Inputs utilized for analysis:

C4 Campaign Plan
CSSE ACL for POM-08 dtd 26 Aug 2005
GCE Capabilities Assessment dtd 1 June 06
ACE – AC2 Functional Concept dtd 22 Nov 05
FORCEnet Concept Annex: Capability decomposition
NCOE CBA (Net-Centric FCB)
UNS 03328UB-IT Communications Planning Software

Gap, Excess, or Shortfall

Mission Area	FP, PO, FE, CIT, DO
Forces Affected	Battalion and below
Capability Statement	Gap in the ability to operate voice and data C2 systems to the squad level
DOTMLPF	D, O, T, M,

Current PORS:

JBCP	CTN	IISR
JNMS	MCNOSC	NMCI
TDN	TSM/ULCS	SMART-T
CONDOR	HC3	TCM
JSTARS	JTRS	VSAT
LMST		

Networking
Priority #4

JCA: Provide Robust, reliable communications to all nodes, based on the varying requirements of those nodes (FORCEnet Capability #1)

MCT: 5.1.1 Provide and Maintain Communications

Deficiencies in Conditions: Unable to communicate all Command and control data (voice/data/video) across a common IP backbone

Deficiencies in Standards: "Capable" defined as ability to use DSN and switched voice, utilize 1-10Mbps of data and participate in point to point video teleconferencing

Inputs utilized for analysis:

C4 Campaign Plan
CSSE ACL for POM-08 dtd 26 Aug 2005
GCE Capabilities Assessment dtd 1 June 06
ACE – AC2 Functional Concept dtd 22 Nov 05
FORCEnet Concept Annex: Capability decomposition
NCOE CBA (Net-Centric FCB)
UNS 03328UB-IT Communications Planning Software

Gap, Excess, or Shortfall

Mission Area	FP, PO, FE, CIT, DO
Forces Affected	MEF and below
Capability Statement	Gap in the ability to operate C4I systems on-the-move and over-the-horizon
DOTMLPF	D, O,T, M,

Current PORS:

JBCP	CTN	IISR
JNMS	MCNOSC	NMCI
TDN	TSM/ULCS	SMART-T
CONDOR	HC3	TCM
JSTARS	JTRS	VSAT
LMST		

Networking
Priority #8

JCA: Provide Robust, reliable communications to all nodes, based on the varying requirements of those nodes (FORCEnet Capability #1)

MCT: 5.1.1 Provide and Maintain Communications

Deficiencies in Conditions: Unable to communicate all Command and control data (voice/data/video) across a common IP backbone

Deficiencies in Standards: "Capable" defined as ability to use DSN and switched voice, utilize 1-10Mbps of data and participate in point to point video teleconferencing

Inputs utilized for analysis:

C4 Campaign Plan
CSSE ACL for POM-08 dtd 26 Aug 2005
GCE Capabilities Assessment dtd 1 June 06
ACE – AC2 Functional Concept dtd 22 Nov 05
FORCEnet Concept Annex: Capability decomposition
NCOE CBA (Net-Centric FCB)
UNS 03328UB-IT Communications Planning Software

Gap, Excess, or Shortfall

Mission Area	FP, PO, FE, CIT, DO
Forces Affected	MARFOR and below
Capability Statement	Gap in ability to monitor, maintain and manage the network.
DOTMLPF	D, O, T, M. P, F

Current PORS:

JBCP	CTN	IISR
JNMS	MCNOSC	NMCI
TDN	TSM/ULCS	SMART-T
CONDOR	HC3	TCM
JSTARS	JTRS	VSAT
LMST		

Plan Collaboratively
Priority #9

JCA: 5.5.0.0 Plan Collaboratively

MCT: 5.3.2 Establish Means of Command and Control 5.2 5.3

Deficiencies in Conditions: Provide distributed groups of decision makers the ability to cooperate in the performance of common command and control activities by means of a collaborative work environment (Fn 7)

Deficiencies in Standards: Must be digital, voice,data,video, multi-path, all weather / terrain and range, must gracefully degrade as network degrades (retain basic capabilities by network degrades/is lost

Gap, Excess, or Shortfall

Mission Area	FP, PO, FE, CIT, DO
Forces Affected	MEU/Battalion and below
Capability Statement	Gap in sufficient transport layer capability to support collaborative applications
DOTMLPF	D, T, M

Inputs utilized for analysis:

FORCEnet Concept
FORCEnet Capabilities Annex
MAGTF C2 Vision
MAGTF C2 CONOPS
C2 JIC CBA
DO CONOPS
UNS 04195UA- Tactical Unit Leader Cognitive Assistant
UNS 04054UA – C2PC Coalition Capability

Current PORS:

AFATDS
CAC2S
TBMCS
MAGTF C2 S&A
SIAP
JNMS
C2PC
JBCP
COC
CTN
FICCS
GCCS

DOTMLPF Analysis

Doctrine

- **Is there existing doctrine that addresses the issue or relates to the issue? Joint? Service? Agency?**

- **Are there operating procedures in place that are NOT being followed which contribute to the issue? Which could, at least in part, correct the issue or lessen its impact?**

- **If no doctrine or procedures are in place which pertain to the issue, does new doctrine or do new procedures need to be developed and implemented which provide either a complete or partial solution to the issue?**

DOTMLPF Analysis

Organization

- **Where is the problem occurring? What organizations is the problem occurring in?**
- **What is the mission/management focus of those organizations?**
  - **Primary and secondary missions**
- **What are the organizational values and priorities?**
- **Is the organization properly staffed and funded to deal with the issue?**
- **Are commanding officers/senior management aware of the issues?**
- **Is the issue already in some type of organizational issue list (CC IPL)?**
- **If so, why isn't the issue being resolved?**
- **Who exactly is aware of/impacted by the issue?**

DOTMLPF Analysis

Training

- **Is the issue caused, at least in part, by a complete lack of or inadequate training?**
- **Does training exist which addresses the issue?**
- **Is the training being delivered effectively?**
- **Is the issue caused by a lack of competency or proficiency on existing systems and equipment?**
- **Do personnel effected by the issue have access to training?**
- **Is training properly staffed and funded?**

DOTMLPF Analysis

Materiel

- **Is the issue caused, at least in part, by inadequate systems or equipment?**

- **What current systems are in the Family-of-Systems where the problem is occurring?**

- **What functionality would a new system provide that currently does *not* exist?**

- **Is the issue caused by a lack of competency or proficiency on existing systems and equipment?**

- **Who would be the primary and secondary users of the proposed systems or equipment?**

DOTMLPF Analysis

Leadership & Education

- **Is the issue caused, at least in part, by inability or decreased ability to cooperate/coordinate/ communicate with external organizations?**

- **Do the senior officers understand the scope of the problem?**

- **Does command have resources at its disposal to correct the issue?**

- **Is leadership being trained on effective change management principles?**

- **Has command properly assessed the level of criticality, threat, urgency, risk, etc. of the operational results of the issue?**

- **Is senior leadership aware of the drivers and barriers to**

DOTMLPF Analysis

Personnel

- **Is the issue caused, at least in part, by inability or decreased ability to place qualified and trained personnel in occupational specialties?**

- **If issue resolution is likely to involve new material, systems, or equipment, are different occupational specialty codes needed to properly staff new systems?**
  - **Primary users**
  - **Maintenance personnel**
  - **Support personnel**

- **Do new training programs need to be developed for newly recruited personnel?**

DOTMLPF Analysis

Facilities

- **Is the issue caused, at least in part, by inadequate infrastructure?**
- **If so, was issue a result of**
  - **Aging/wear?**
  - **New engineering didn’t meet needs?**
  - **Battle damage/threat?**
- **Was issue caused by lack of proper environmental controls?**
- **Issue caused, at least in part, by inadequate**
  - **Roads/trails?**
  - **Main supply routes?**
  - **Force beddown?**
  - **Facilities operation and maintenance?**
  - **Hardening?**
  - **Field fortification support?**
  - **Etc?**

Ideas for Materiel Approaches (IMA)

If materiel development is the answer, the next FSA step simply provides potential materiel solutions:

- **Functional experts from each service develop and submit ideas for joint materiel approaches**
- **Not system specific (that will be done in the AOA)**
  - **Considers range of military operations, conditions set by concepts and architectures**
  - **Changes in quantity of existing equipment**
  - **Product improvement to existing materiel**
  - **Acquisition of other service, interagency, or foreign military approaches**
  - **Capability bases looking at materiel alternatives as:**
    - **A UAV with a bomb**
    - **A ground sensor**
    - **An aeriel recon vehicle**
    - **NOTICE, NO MENTION OF A SPECIFIC UAV, SENSOR, HELICOPTER – IT IS CAPABILITY, NOT SYSTEM FOCUSED**
- **Prioritized list of materiel approaches, based on satisfying need, technical maturity, timeliness of delivery, potential for full capability.**
- **If none are satisfactory, expand the list of alternatives**

RECAP

- ✓ **Have we adequately covered the capability area?**
- ✓ **Do we have adequate DOTMLPF pillar assessments for at least the top 10 gaps?**
- ✓ **Have we included the correct lead/support organizations for each pillar?**
- ✓ **Have we properly identified needs for S&T initiatives?**
- ✓ **Have we identified those areas that require interaction between Integration Divisions?**
- ✓ **Have we identified any additional areas that need to be studied or issues that need to be reviewed before finalizing the SPD in this area?**
- ✓ **Is there a larger DOTLPF issue that needs to be addressed on Friday? If so, what is it?**

CAPABILITIES DEVELOPMENT
DIRECTORATE
UT MILITEM CONFIRMEMUS

QUESTIONS?